

**FILED**

**JUN 03 2013**

**SECRETARY, BOARD OF  
OIL, GAS & MINING**

**BEFORE THE BOARD OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH**

IN THE MATTER OF THE REQUEST FOR AGENCY ACTION OF BILL BARRETT CORPORATION FOR AN ORDER EXTENDING THE BOARD'S ORDER ENTERED IN CAUSE NO. 139-84 TO CERTAIN SPECIAL DRILLING UNITS PREVIOUSLY ESTABLISHED UNDER THE BOARD'S ORDER ENTERED IN CAUSE NO. 131-27 TO AUTHORIZE UP TO FOUR PRODUCING WELLS, AND MODIFYING THE BOARD'S ORDERS ENTERED IN CAUSE NOS. 131-24, 131-27 AND 139-42 TO PROVIDE FOR THE DRILLING, ON A PILOT BASIS, OF ADDITIONAL WELLS TO ACHIEVE THE EQUIVALENT OF UP TO AN 80-ACRE WELL DENSITY PATTERN, FOR THE PRODUCTION OF OIL, GAS AND ASSOCIATED HYDROCARBONS FOR THE LOWER GREEN RIVER – WASATCH FORMATIONS ON VARIOUS ESTABLISHED SECTIONAL OR SPECIAL DRILLING UNITS WITHIN TOWNSHIP 2 SOUTH, RANGES 1 AND 2 EAST, USM, AND TOWNSHIP 6 SOUTH, RANGE 19 EAST, SLM, UINTAH COUNTY, UTAH

**REQUEST FOR AGENCY ACTION**

Docket No. 2013-018

Cause No. 139-106

COMES NOW, Bill Barrett Corporation (“BBC”), acting by and through its attorneys, MacDonald & Miller Mineral Legal Services, PLLC, and pursuant to Utah Code Ann. §§40-6-5(3)(b) and 40-6-6, and hereby respectfully requests the Board of Oil, Gas and Mining (the “Board”) to enter an order: (1) extending the Board’s Order entered

on December 30, 2008 in Cause No. 139-84 (the “139-84 Order”) to allow up to four (4) producing wells upon the following existing special drilling units established under the Board’s Order entered April 16, 1975 in Cause No. 131-27 (the “131-27 Order”):

A) T2S, R2E, USM

Sec. 6: Lots 1-8, SW $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ NW $\frac{1}{4}$ ,  
E $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$  [All]

B) T2S, R2E, USM

Sec. 7: Lots 1-4, E $\frac{1}{2}$ W $\frac{1}{2}$ , E $\frac{1}{2}$  [All]  
Sec. 8: Lot 1 and SW $\frac{1}{4}$ NW $\frac{1}{4}$

C) T2S, R2E, USM

Sec. 8: Lots 2-4, W $\frac{1}{2}$ SW $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$

T6S, R19E, SLM

Sec. 4: Resurvey Tracts 38, 38A, 39 and 40, Lot 8,  
SE $\frac{1}{4}$ NE $\frac{1}{4}$ , N $\frac{1}{2}$ SE $\frac{1}{4}$  [All]  
Sec. 5: Lot 1 [All]  
Sec. 9: Lots 5-7

D) T2S, R2E, USM

Sec. 16: Lot 1 [All]  
Sec. 17: Lots 1-5, W $\frac{1}{2}$ SE $\frac{1}{4}$ ,  
SW $\frac{1}{4}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$

T6S, R19E, SLM

Sec. 9: That portion of Resurvey  
Tract 42 lying therein

E) T2S, R2E, USM

Sec. 17:  $W\frac{1}{2}NW\frac{1}{4}$

Sec. 18: Lots 1-13, that portion of MS38  
(Carbon No. 2 Lode Mining Claim)  
lying therein,  $N\frac{1}{2}NE\frac{1}{4}$ ,  $SE\frac{1}{4}NE\frac{1}{4}$ ,  
 $SE\frac{1}{4}SW\frac{1}{4}$  [All]

F) T2S, R2E, USM

Sec. 19: Lots 1-5, those portions of MS38 and  
MS39 (Carbon No. 2 and Carbon No.  
3 Lode Mining Claims) lying therein,  
 $E\frac{1}{2}W\frac{1}{2}$ ,  $W\frac{1}{2}NE\frac{1}{4}$ ,  $SE\frac{1}{4}NE\frac{1}{4}$ ,  $SE\frac{1}{4}$   
[All]

G) T2S, R2E, USM

Sec. 20: Lots 1-7, that portion of MS39 lying  
therein (Carbon No. 3 Lode Mining  
Claim),  $W\frac{1}{2}SW\frac{1}{4}$ ,  $NE\frac{1}{4}NW\frac{1}{4}$ ,  $NE\frac{1}{4}$ ,  
 $E\frac{1}{2}SE\frac{1}{4}$  [All]

Sec. 21: Lots 1 and 2,  $NW\frac{1}{4}SW\frac{1}{4}$

H) T2S, R2E, USM

Sec. 21: Lots 3 and 4,  $SW\frac{1}{4}SW\frac{1}{4}$

T6S, R19E, SLM

Sec. 15: Lots 7-11, that portion of Resurvey  
Tracts 48 and 49 lying therein,  
 $S\frac{1}{2}NE\frac{1}{4}$ ,  $N\frac{1}{2}SE\frac{1}{4}$ ,  $E\frac{1}{2}SW\frac{1}{4}$

Sec. 22: Lots 5-7 and that portion of Resurvey  
Tracts 48 and 49 lying therein; and

I)

T2S, R2E, USM

Sec. 28: Lots 1-4, SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$   
and SW $\frac{1}{4}$ SE $\frac{1}{4}$

T6S, R19E, SLM

Sec. 22: Lots 8 and 9, Resurvey Tract 50,  
E $\frac{1}{2}$ SE $\frac{1}{4}$

Sec. 27: Lot 5, NE $\frac{1}{4}$ NE $\frac{1}{4}$

(collectively the “Extension Lands”), for the production of oil, gas and associated hydrocarbons for the Lower Green River and Wasatch formations, defined in the 131-27 Order (by reference to the Board’s Order entered on August 11, 1971 in Cause No. 131-14), as follows:

that interval below the stratigraphic equivalent of 9,600 feet depth in the “E” Log of the Carter #2 Bluebell well located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ , Section 3, Township 1 South, Range 2 West, U.S.M. (which equivalence is the depth 9,530 feet of the SP curve, Dual Induction Log, run March 15, 1968, in the Chevron #1 Blanchard well located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$  of said [Section 3]), to the base of the Green River-Wasatch formations,

(the “Subject Formations”); and (2) modifying the 131-27 Order and the Board’s Orders entered on January 16, 1974 in Cause No. 131-24 (the “131-24 Order”) and on April 17, 1985 in Cause No. 139-42 (the “139-42 Order”) to provide, on a pilot basis, for additional wells to test the viability of up to an approximate 80-acre well density pattern for the production of oil, gas and associated hydrocarbons from the Subject Formations for the

following existing sectional and/or special drilling units originally established under the  
131-24 or 131-27 Orders:

- A) T2S, R1E, USM  
Sec. 25: Lots 1-8, SE $\frac{1}{4}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$  [All]
- B) T2S, R1E, USM  
Sec. 36: All
- C) T2S, R2E, USM  
Sec. 28: W $\frac{1}{2}$ NW $\frac{1}{4}$   
Sec. 29: All
- D) T2S, R2E, USM  
Sec. 30: Lots 1-4, E $\frac{1}{2}$ W $\frac{1}{2}$ , E $\frac{1}{2}$  [All]
- E) T2S, R2E, USM  
Sec. 31: Lots 1-4, E $\frac{1}{2}$ W $\frac{1}{2}$ , E $\frac{1}{2}$  [All]
- F) T2S, R2E, USM  
Sec. 32: All  
Sec. 33: W $\frac{1}{2}$ NW $\frac{1}{4}$ ; and
- G) T2S, R2E, USM  
Sec. 33: Lot 1, S $\frac{1}{2}$ , E $\frac{1}{2}$ NW $\frac{1}{4}$ , W $\frac{1}{2}$ NE $\frac{1}{4}$ ,  
SE $\frac{1}{4}$ NE $\frac{1}{4}$   
Sec. 34: Lots 1-3 [All]

T6S, R19E, SLM

Sec. 27: Lots 6-9

Sec. 34: Lot 2 [All]

(collectively the “Pilot Lands”), maintaining the 660-ft. setbacks from the drilling unit boundaries established under the 139-42 Order, but reducing the intra-well setbacks within the drilling unit to 990 feet. The Extension and Pilot Lands are part of what BBC refers to as the “Fort Duchesne” area and are located in the eastern part of the Bluebell field.

In support of this Request, BBC respectfully states and represents:

1. BBC is a Delaware corporation with its principal place of business in Denver, Colorado. BBC is duly qualified to conduct business in the State of Utah, and is fully and appropriately bonded with all relevant, Federal, Indian and State of Utah agencies.

2. By virtue of the 131-24 and 131-27 Orders, the Extension and Pilot Lands were established as special drilling units for production from the Subject Formations. Under said Orders, only one well on each such drilling unit was allowed, which could not be located closer than 1,320 feet from the drilling unit boundary with certain exceptions for one well within the drilling unit inclusive of the Section 20 lands, T2S, R2E, USM, which well has since been plugged and abandoned.

3. By virtue of the 139-42 Order, the Board modified the 131-24 and 131-27 Orders, among other orders, to provide that additional wells which produce from the Subject Formations may be drilled, completed, and produced on the established drilling units to a density of no greater than two producing wells in each unit. Additional wells may be drilled at the option of the operator of the unit based upon geologic and engineering data for that unit which will justify an additional well in order to recover oil, provided that said operator would have a reasonable opportunity to recover costs of drilling, completing, producing and operating a well plus a reasonable profit. Any additional well must be located at least 1,320 feet from an existing well in the unit and not closer than 660 feet from the exterior boundary of the unit, and no two wells may be drilled in the same quarter section.

4. By virtue of the 139-84 Order, the Board modified many other orders applicable to the Altamont/Bluebell/Cedar Rim – Sink Draw fields, but only as relating to lands other than the Extension and Pilot Lands, to allow up to four (4) producing Lower Green River-Wasatch wells upon each drilling unit established under said orders, to be drilled at the option of the operator and with the operator's full discretion as to the development of the hydrocarbon resources; provided that each additional well shall be no closer than 1,320 feet from an existing unit well completed in and producing from the formations and no closer than 660 feet from the drilling unit boundary.

5. As relating to the Lower Green River and Wasatch formations, the Board, in the 139-84 Order, expressly found:

- a) [P]roduction occurs from multiple, generally low-matrix porosity, thin-bedded sandstones, forming a highly complex series of isolated and discontinuous beds that are randomly distributed vertically over a several thousand-foot interval. Normally, the productive beds are separate and distinct and not in communication with each other [Finding of Fact No. 15];
- b) [M]any of the productive beds are not correlatable from well to well and will not afford communication between wells within several hundred feet of one another [Findings of Fact No. 16];
- c) [E]vidence from mudweights, pressure data, well logs, and production data show virgin and near virgin zones exist and reserves that otherwise would not be produced will be recovered by the drilling, completion and production of third and fourth wells [Findings of Fact No. 21]; and
- d) The drilling of increased density wells under existing orders within [the area subject to the 139-84 Order] demonstrates:
  - Second wells have recovered in excess of 55 MMBOE of incremental oil to date;
  - Second and third wells drilled discovered incremental oil in new reservoirs not intersected by earlier wells;
  - Second and third wells do not drain the reserves in the drilling units and are nearing the end of their economic lives;
  - The average well drainage area [for the area subject to the 139-84 Order] is approximately 160 acres;
  - Some of the reservoirs intersected by second and third wells do communicate with the earlier wells drilled, but also

encountered incremental reserves (new reservoirs) that have not been previously encountered and produced;

- Despite some pressure communication between increased density wells with first and subsequent wells in [*sic*, a] section, there is not overall production interference or production acceleration between wells; and
- Production from second, third, and even fourth wells in section did not adversely affect production in the first and other pre-existing wells producing from the [Lower Green River and Wasatch formations] in the drilling units.

[Findings of Fact No. 22].

In addition, the Board expressly made the following conclusions of law:

- a) The 640-acre drilling units shall remain a uniform size and shape...and conform to the predominant pattern in the area established by the [139-42 Order]...[Conclusion of Law No. 5]; and
- b) An order authorizing the drilling of additional wells, up to four wells in the established units at the option of the operator,...will promote the public interest, economically increase ultimate maximum recovery, prevent waste, protect correlative rights of all owners, and avoid the drilling of unnecessary wells [Conclusion of Law No. 7].

6. Similar to the testimony given and exhibits admitted into evidence at the hearing in Cause No. 139-84, and the Findings of Fact and Conclusions of Law of the Board cited in Paragraph 5 above, BBC believes and therefore avers that, as relevant to the Lower Green River and Wasatch formations underlying the Extension Lands:

- a) Geologic and engineering information from the initial wells drilled demonstrate that the recoverable oil and gas will not be effectively drained in a 640-acre drilling unit by one (1) or two (2) wells and an

addition of up to four (4) wells per section will tap into smaller productive reservoirs that have geologic and engineering characteristics that prevent one or two wells from draining those resources;

- b) Many of the productive reservoirs that are drilled do not correlate well from well to well. This geologic characteristic prevents communication between wells at intervals as small as less than 1,000 feet;
- c) The reservoir permeability and nature of the fracture components of the reservoir reduces the effect of communication with the sand that do correlate and does not allow for efficient drainage of the hydrocarbon resource;
- d) Production data and geologic calculations demonstrate that one or two wells per section do not effectively drain the reservoir and recoverable hydrocarbons can be recovered with up to four wells per section;
- e) After more than 35 years of production from these lands and adjacent lands, newly drilled wells are finding reservoir pressures similar to the offsetting wells and sometimes higher than the offsetting wells demonstrating the potential for additional recovery of hydrocarbons in a section;
- f) Separate and distinct reservoirs will be found with additional wells drilled in the field and hydrocarbons recovered from new wells can not be recovered with the existing wells in the field;
- g) The current order and rules applicable to the Extension Lands allow for operators to shut in and plug existing wells in the field with potential resources that may not be recovered in order to drill new wells that have higher potential. Waiting for the existing wells to deplete causes economic waste and higher operating expenses which will reduce the ultimate recovery of the hydrocarbons. Surface facilities deteriorate, gas gathering systems are under utilized and run less efficiently, and overall production operating expenses are

higher reducing the effective productive life of the field and reduces ultimate recovery; and

- h) In some areas of the field based on geologic, engineering and economic factors additional drilling with up to four wells per section will not cause unnecessary wells to be drilled and will allow additional hydrocarbons to be produced that would otherwise not be recovered.

Accordingly, extension of the 139-84 Order to the Extension Lands is fair, equitable and justified.

7. As of June 1, 2013, there are two wells producing oil from the Subject Formation upon the Extension and Pilot Lands and operated by BBC, as follows:

<u>Well Name</u>	<u>Location</u>	<u>DOFP</u>
FD 15-7-2-2	<u>T2S, R2E, USM</u> Sec. 7: SW $\frac{1}{4}$ SE $\frac{1}{4}$	12/27/12
FD 3-31-2-2	<u>T2S, R2E, USM</u> Sec. 31: NE $\frac{1}{4}$ NW $\frac{1}{4}$	4/3/13

In addition, as of June 1, 2013, the following wells have been spud (but not yet completed) upon the Pilot Lands, which are operated by BBC and targeting production from the Subject Formations:

<u>Well Name</u>	<u>Location</u>	<u>Spud Date</u>
FD 9-25D-2-1 (Directional)	<u>T2S, R1E, USM</u> Sec. 25: NE $\frac{1}{4}$ SE $\frac{1}{4}$ (SHL) NE $\frac{1}{4}$ SE $\frac{1}{4}$ (BHL)	4/30/13

FD 3-32-2-2	<u>T2S, R2E, USM</u> Sec. 32: NE $\frac{1}{4}$ NW $\frac{1}{4}$	3/19/13
FD 11-30D-2-2 (Directional)	<u>T2S, R2E, USM</u> Sec. 30: NE $\frac{1}{4}$ SW $\frac{1}{4}$ (SHL) NE $\frac{1}{4}$ SW $\frac{1}{4}$ (BHL)	5/15/13
FD 3-30D-2-2 (Directional)	<u>T2S, R2E, USM</u> Sec. 30: NE $\frac{1}{4}$ NW $\frac{1}{4}$ (SHL) NE $\frac{1}{4}$ NW $\frac{1}{4}$ (BHL)	5/8/13

8. From the production from the two existing wells, as well as from other BBC operated wells in the Fort Duchesne area to date, it has been determined that:

(a) the Lower Green River formation is dominated by marginal lacustrine and open lacustrine deposits with a few alluvial deposits. Many of these deposits can be correlated between wells on 320-acre density pattern (two wells per section) but, due to the rock properties, are probably not effectively draining the entire 320 acres. The Upper Wasatch formation is dominated by fluvial and alluvial deposits with a few carbonate deposits is primarily comprised of lenticular sands that cannot be correlated between wells on 320-acre density pattern. The permeability and porosity of these rocks is extremely low but natural fracturing allows the oil and gas to be stored for exploitation. Due to the poor porosity and permeability, the primary recovery factor for both of these formations is estimated at approximately 5%; and

(b) production comes from a complex series of correlative carbonates and discontinuous sand bodies distributed vertically over a several thousand foot interval. The low matrix permeability and porosity and the nature of the natural fracture components of the reservoir reduce the effect of communication with the correlative carbonates and discontinuous sand bodies. Because of these reservoir properties, the current drilling density does not allow for efficient drainage of the hydrocarbon resource.

Recent production results (*i.e.*, production logs) from wells drilled within the Pilot Lands have shown hydrocarbon contribution from the majority of the completed interval

indicating the well is draining a smaller area and the potential need for increased well density.

9. As a consequence, BBC desires to conduct a pilot program for the Pilot Lands allowing wells to be drilled up to the equivalent of 80-acre well density, *i.e.* up to eight (8) producing wells from the Subject Formations, to help determine the most efficient and economic spacing to develop the Eastern Bluebell field. BBC believes and therefore avers that the pilot program may lead to recovery of resources that may not otherwise be recovered on a 320-acre or even a 160-acre equivalent well density. The orientation of the 80-acres (stand-up or lay-down) is to be left to BBC's discretion; provided, however, that the orientation once selected must be consistent for the rest of the drilling unit. No productive interval of a well may be located closer than 660 feet to a sectional boundary or 990 feet to another well producing in the Spaced Formations without an exception location approval obtained in accordance with Utah Admin. Code Rule R649-3-3.

10. The Pilot Lands were selected for the proposed pilot program because, other than the six wells BBC has drilled or will drill in 2013, the drilling units for said lands have not been drilled and developed and therefore remain virgin. This will allow BBC to test a "grass roots" 80-acre density pattern. BBC believes and therefore avers the pilot program wells can be drilled economically.

11. This Request is not without precedent. The Board has previously approved similar pilot programs in the Western Altamont/Cedar Rim area in Cause Nos. 139-89 and 139-91; albeit, those 80-acre equivalent well density pilots were based on slightly different geologic and resource characteristics of the Subject Formations in that area.

12. After the drilling has occurred and results analyzed, BBC agrees to report back to the Board on the success or failure of the pilot program. If the pilot program is successful, BBC expects to seek Board approval of such well density throughout the remainder of the Fort Duchesne area.

13. The oil and gas underlying the Extension and Pilot Lands are a mixture of Federal, fee, Indian and State ownership. Correlative rights will be protected by virtue of pooling or communitization agreements conforming to the existing 131-24 and 131-27 Orders, pursuant to which production will be allocated to all production interest owners within the applicable drilling unit regardless of the number of wells producing from the Subject Formations. Furthermore, the correlative rights of the parties in adjacent drilling units and lands are protected by virtue of maintaining the same drilling unit boundary set-offs as currently exist under the 139-42 and 139-84 Order.

14. BBC believes and therefore avers that granting its Request will be in furtherance of the public policies of this State to promote greater recovery of oil, gas and associated hydrocarbons from the Subject Formations without waste and with protection

of the correlative rights of all affected owners, constitutes orderly development of the Extension and Pilot Lands, and is just and reasonable.

15. BBC will, in accordance with Board rules, timely submit exhibits and present testimony in support of these allegations.

16. BBC will separately file a certificate of mailing listing all parties known to it, based on a search of the respective State of Utah, Bureau of Indian Affairs and County realty records and the Division of Oil, Gas and Mining's records, whose "legally protected interests" will be affected by this Request. There are no respondents or adverse parties known at this time to BBC.

**WHEREFORE**, BBC respectfully requests:

1. That this matter be set for hearing on July 31, 2013 in Salt Lake City, Utah;
2. That notice of such hearing be given as provided by law; and
3. That, upon sufficient evidence produced and testimony given at the hearing,

the Board issue an order:

a) Extending application of the 139-84 Order to all of the Extension Lands as defined above to allow up to four (4) producing Lower Green River-Wasatch wells upon the existing drilling units, subject to the same off-set limitations set forth in said Order;

b) Modifying the 131-24, 131-27 and 139-42 Orders to authorize the drilling, on a pilot basis, of additional wells, upon the established drilling units for the Pilot Lands as defined above for production of oil, gas and associated hydrocarbons from the Lower Green River-Wasatch formations up to the equivalent of an approximate 80-acre well density; provided, however, that within

a reasonable time after analysis of the pilot program results but, in no event no more than two years after entry of the Order, BBC report back to the Board on the success or failure of the program;

c) Providing the orientation (stand-up or lay-down) of the 80-acres so authorized as outlined in Paragraph (b) above may be at the discretion of BBC; provided, however, that the orientation once selected must be consistent for the rest of the drilling unit;

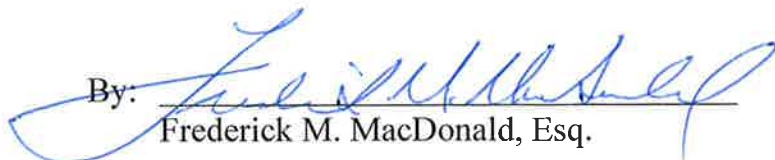
d) Providing no productive interval of any well so authorized as outlined in Paragraph (b) above may be located closer than 660 feet to a drilling unit boundary or 990 feet to another well producing from the Spaced Formations without an exception location approval obtained in accordance with Utah Admin. Code Rule R649-3-3;

e) making such findings and orders in connection with this Request as it deems necessary; and

f) providing for such other and further relief as may be just and equitable under the circumstances.

Respectfully submitted this 3<sup>rd</sup> day of June, 2013.

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